

NEWPORT
HARBOR
RHODE ISLAND

SURVEY

(REVIEW OF REPORTS)



U.S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS WALTHAM, MASS.

14 SEPTEMBER 1962

SURVEY (REVIEW OF REPORTS)

NEWPORT HARBOR, RHODE ISLAND

SYLLABUS

The Division Engineer finds that the existing general navigation facilities are adequate for present needs, with the exception of channel depths along the southern portion of the waterfront. However, channel deepening in this area cannot be justified because of the high cost of ledge rock removal that would be required. Other areas which certain local interests wish improved lie shoreward of the Harbor Line and local interests are unable to reach agreement on plans for relocating the Harbor Line. No modification of the existing Federal project is recommended at this time.

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Attachment -- Information Required by
Sen.-Res. 148

1

Map Accompanying Report:
Report Map-File No. Np-206

NEWPORT HARBOR, RHODE ISLAND

Information Called for by Senate Resolution 148, 85th Congress,

Adopted 28 January 1958

1. Navigation Problem. - Newport Harbor is a large cove on the west side of Aquidneck Island in the eastern part of Narragansett Bay, 25 miles south of Providence Harbor, and 14 miles northeast of Point Judith Harbor. The main portion of the inner harbor is approximately rectangular in shape with a width of about 2,000 feet and a length of about 4,500 feet between Long Wharf and the southerly shore. The harbor is used by commercial, recreational and fishing craft.

2. It is reported by local interests that vessels are unable to reach the wharves in the extreme south end of the harbor due to shoal water. Most of the other reported difficulties attending navigation relate to approaches to wharves and berthing areas all shoreward of the harbor line.

3. Improvements Considered. - The various improvements considered are noted below:

a. Provision of an additional channel 21 feet deep to and along the east shorefront. The improvement could not be economically justified.

b. Provision of an anchorage for small pleasure craft. Four separate possible plans of improvement for pleasure craft were studied and submitted to the City for comment. As a result of a meeting with City Officials and local interests, it was stated by them that the timber piers being constructed at "Stone Pier" were adequate for their needs and that no additional improvements were desired.

c. Deepening the northerly portion of the 13-foot anchorage to 18 feet and providing an 18-foot channel along the southerly portion of the east waterfront. The improvement could not be economically justified.

d. Provide 18-foot depths in the areas on the east and west sides of the City Wharf. Due to lack of interest by the local people to justify such depths, the fact that a part of the desired improvement was shoreward of the harbor line and the conflict of public opinion as to the possible use and revision of the harbor line, no further consideration was given to this area.

4. Conclusion. - There is no basis for modifying the existing navigation project for Newport Harbor, Rhode Island at this time.

U. S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS
424 Trapelo Road
Waltham 54, Mass.

NEDGW

14 September 1962

SUBJECT: Survey (Review of Reports) Newport Harbor, Rhode Island

TO: Chief of Engineers
ATTN: ENGOW-P
Department of the Army
Washington 25, D. C.

AUTHORITY

1. This report is submitted in compliance with Section 7 of the River and Harbor Act approved 24 July 1946 (Public Law 525 - 79th Congress) which reads in part as follows:

"Sec. 7. The Secretary of War is hereby authorized and directed to cause preliminary examination and surveys to be made at the following-named localities.....
Newport Harbor, Rhode Island."

2. A preliminary examination report dated 24 February 1948 was partially favorable to the improvements desired. The Chief of Engineers by letter dated 22 July 1948 assigned a survey report to the New England Division Engineer.

PURPOSE AND EXTENT OF STUDY

3. In the preparation of this report, a detailed hydrographic survey consisting of soundings and probings was made, from which the character and estimated quantities of the material to be dredged were determined. Available maps, commercial statistics, and other data pertaining to the harbor have been studied. A public hearing was held at Newport, R. I. on 7 January 1947, and information obtained from the public hearing has been further supplemented by recent contacts with local interests and correspondence submitted by them, and all additions or changes in improvements requested subsequent to the public hearing are incorporated and considered in this report.

DESCRIPTION OF NAVIGATION CONDITIONS

4. Newport Harbor is a large cove on the west side of Aquidneck Island in the eastern part of Narragansett Bay, 25 miles south of Providence Harbor and 14 miles northeast of Point Judith Harbor. The harbor proper lies adjacent to Aquidneck Island on the east and south, Goat Island on the west, and Coasters Harbor Island on the north. The main portion of the inner harbor is approximately rectangular in shape with a width of about 2,000 feet and a length of about 4,500 feet between Long Wharf and the southerly shore. Brenton Cove opens into the inner harbor at Ida Lewis Rock and extends southerly about 2,500 feet. The outer harbor, west of Goat Island, extends northerly from Fort Adams about 2 miles to Coasters Harbor Island.

5. Natural depths of from 35 to 55 feet below mean low water exist in the outer harbor west of Goat Island, and decrease gradually opposite Fort Adams to a minimum of about 12 feet in Brenton Cove. The outer harbor is reserved as a naval anchorage. The inner harbor has been improved by dredging. There now exists a channel 300 to 350 feet wide and 21 feet deep easterly of Goat Island extending from deep water south of the island to deep water north of the island, and an anchorage area with a controlling depth of about 17 feet covering about $3/4$ of the harbor area. An anchorage area 13 feet deep adjoins this area on the south. The mean tidal range is 3.5 feet and the spring range 4.4 feet. There are no bridges crossing any portion of the harbor. The locality is shown on charts of the U. S. Coast and Geodetic Survey numbered 236 and 353 and the map accompanying this report.

TRIBUTARY AREA

6. The area tributary to the harbor comprises the City of Newport, and the Towns of Middletown and Portsmouth, all located on Aquidneck Island; and the Town of Jamestown which is situated on Conanicut Island on the west side of the eastern passage to Narragansett Bay about 3 miles west of Newport Harbor. The 1960 census indicated a population of 47,049 for the City of Newport.

7. Newport is well known as a summer resort and yachting center. Ship service, chandlery and fishing are important sources of income in normal services. The United States Navy maintains large facilities on Aquidneck Island, which includes the Naval War College and a Naval Training Station. Goat Island, which was used exclusively by the Navy has been recently declared surplus property.

8. The Jamestown Bridge and the Jamestown-Newport Ferry, both toll operated, provide Newport with direct connections to the west side of Narragansett Bay. The Mount Hope Bridge, a privately-owned toll span, provides direct connection with the Rhode Island mainland and a state highway bridge provides access to the Massachusetts mainland. Good roads prevail throughout the area. The New York, New Haven and Hartford railroad supplies freight service between Newport and Fall River, Massachusetts.

PRIOR REPORTS

9. Newport Harbor has been the subject of several previous reports. Pertinent data on prior reports is given in the following tabulation:

Report	Work Considered	Recommendation
Preliminary Examination (House Document, No. 121, 58th Congress, 2nd Session)	Deepening the 750-foot channel through the harbor to 18 feet.	Favorable
Preliminary Examination and Survey (House Document, No. 610, 61st Congress, 2nd Session)	Extension of 13-foot anchorage in southeast part of harbor and removal of Nourmahal Rock to 18 feet.	Favorable
Preliminary Examination and Survey (House Document No. 610, 61st Congress, 2nd Session)	Widening channel south of Goat Island and general development of harbor to 18 feet excepting in south- east part (13-foot anchor- age) and small areas in extreme north part.	Favorable
Preliminary Examination dated 6 December 1922 (Not Published)	None. Relative to small area situated east of city wharf.	Unfavorable
Survey (Committee on Rivers & Harbors, House of Repre- sentatives Document, No. 36, 75th Congress, 1st Session)	Providing channel 21 feet deep with a minimum width of 300 feet around both ends and east side of Goat Island by deepening part of 18-foot channel.	Favorable

EXISTING CORPS OF ENGINEERS PROJECT

10. Before improvement, the southern or main entrance to the inner harbor was obstructed by a bar extending southeasterly from Goat Island and by a shoal lying north of Ida Lewis Rock Light. The wharves along the east side of the harbor could not be reached at low water by vessels drawing more than 8 feet. A project adopted by the River and Harbor Act of 3 March 1873, provided for a channel 15 feet deep between Goat Island and Ida Lewis Rock Light; a channel 12 feet deep and 300 feet wide into commercial wharf and thence 100 feet wide northerly about 1,000 feet; thence in the same direction and a depth of 7 feet to Long Wharf; also for a short jetty on the south end of Goat Island. This work was completed in 1876, except that the full channel width between Goat Island and Ida Lewis Rock Light could not be attained because of hardness of the material.

11. A project adopted by the River and Harbor Act of 3 March 1881, and modified and extended by the acts of 5 July 1884, 13 July 1892, and 17 August 1894, provided for a channel at least 750 feet wide and 15 feet deep at mean low water from deep water in the outer bay around the south end of Goat Island into the Inner Harbor; for extension of the existing 13-foot and 10-foot anchorage areas and for a channel 10 feet deep extending southerly along the waterfront to a point opposite the wharf of the Newport Gas Company; partial removal of the shoal spit at the southerly end of Goat Island and for the construction of jetties on its western shore; and for the removal of Spindle Rock, a sharp, rocky spit lying westward of Goat Island and near the southeast end of Rose Island. This project, completed in 1906, included the removal of a small area of ledge rock discovered in 1903 in the channel opposite the Old Colony Steamboat Co.'s wharf (now U. S. Navy Department Wharf). The cost of all prior projects was \$244,695.71, which included \$10,000 for maintenance.

12. The existing project, adopted by the River and Harbor Act of 2 March 1907, and modified by the acts of 25 June 1910 and 26 August 1937, provides for (1) a channel 1,000 feet wide around the southern end of Goat Island and 750 feet wide along the east side of the island, and having a depth of 21 feet for not less than 300 feet of width with the balance having a depth of 18 feet; (2) a 95-acre anchorage of the same depth located south and east of the channel, and limited on the north by the south line of the city wharf, on the east by the harbor line, and on the south by a line running in general southwesterly from Perry Mill Wharf (now Pinninger and Manchester Co. Wharf); (3) extension of the 13-foot 41-acre anchorage from the southerly limit of the 18-foot anchorage, southward to the harbor line and over that portion of the harbor lying to the eastward of the City Stone Pier; and (4) the removal of Nourmahal Rock in Brenton Cove, off Fort Adams, to a depth of 18 feet. All depths refer to mean low water. The project was completed during Fiscal Year 1940.

13. The most recently reported controlling depths of the existing project at mean low water are as follows: in the 21-foot channel, 19 feet (1955); in the 18-foot channel, 18 feet (1955); in the 18-foot anchorage, 17 feet (1955); in the 13-foot anchorage, 12 feet with the exception of boulders in the southeast corner over which there is a controlling depth of +1.0 feet.

14. The costs and expenditures under the existing project have been \$498,828 for new work and \$29,916 for maintenance, a total of \$528,744. The latest (1960) approved estimate for annual cost of maintenance is \$2,000. No changes in the existing project have been recommended to Congress.

LOCAL COOPERATION ON EXISTING AND PRIOR PROJECTS

15. No conditions of local cooperation have been required on existing and prior projects.

OTHER IMPROVEMENTS

16. In the 1873 Annual Report of the Chief of Engineers it is stated that the citizens of Newport had expended about \$40,000 for dredging prior to that report year. In recent years the City of Newport and the wharf owners have at various times dredged along the water front shoreward of the harbor line to obtain increased depths at the wharves. It is reported that the city expended \$10,000 in 1937 for dredging work in the northeast corner of the harbor, east of the City Wharf, to provide a depth of about 9 feet. A considerable part of this dredging lay channelward of the harbor line. In 1958 the City of Newport constructed a Marina consisting of a timber pier (with timber wave baffle) 250 feet long extending easterly from the end of City Stone Pier, parallel and 4 feet shoreward of the harbor line, with four timber finger piers 90 feet long, extending from the main pier in a southerly direction. The cost of this work was approximately \$27,000.

TERMINAL AND TRANSFER FACILITIES

17. With the exception of Government wharves on Goat Island and at Fort Adams, all terminals are located on the north and east sides of the inner harbor along a total frontage of about 6,700 feet. There are 23 privately-owned piers and wharves in this area, 11 used for the

receipt of petroleum products and coal, 3 used by the fishing industry, one used by the ferry line, one as a terminal for the passenger and freight line to Block Island, with the remainder used as landings and for servicing small boats and yachts. The City of Newport owns three wharves, one each on the north, east and south sides of the harbor, the last being designated as the City Stone Pier. Several of the private wharves are open to the public. Several wharves could be renovated and enlarged to meet an increase in traffic requirements. No suitable unoccupied frontage is available for new terminals.

IMPROVEMENTS DESIRED

18. A public hearing was held at Newport, Rhode Island, on 7 January 1947 to afford local interests an opportunity to express their views. It was attended by State and City officials, local representatives of the Navy, local business interests and interested citizens. Chamber of Commerce officials requested a general deepening of the harbor as follows:

a. A channel 21 feet deep and 350 feet wide extending from the 21-foot entrance channel across the 18-foot anchorage to the east shorefront.

b. A channel 21 feet deep, and 400 feet wide, extending along the entire east shorefront.

c. Deepening the northerly portion of the 13-foot anchorage to 18 feet.

d. Providing an 18-foot depth in the areas on the east and west sides of the north City Wharf.

19. The Chamber of Commerce felt that the 21-foot channel proposed was justified because of the savings in transportation costs expected to accrue through the use of larger barges and ships. It also considered that deepening of the small areas adjacent to City Wharf would provide space for fishing vessels to take on supplies and unload and that deepening the area east of City Wharf would provide access to a yacht club for use of pleasure craft.

20. Improvements requested by a spokesman for the Navy at the hearing, to provide additional depth and width in areas west of the north City Wharf and at Constellation Landing, are no longer needed as these terminal properties have become surplus to Naval needs.

21. Subsequent to the hearing there was established by act of the Rhode Island Legislature a body known as the Newport Development Authority. This Authority was "an instrumentality of the City of Newport", and among other things was empowered to negotiate for construction of a yacht basin and pier together with appurtenant facilities. The Authority requested that a protected small boat anchorage with a depth of 10 feet, be provided in the southeasterly part of the harbor as a substitute for the two small areas proposed by the Chamber of Commerce for the northerly end of the harbor, mentioned as Item d, in paragraph 18. The Authority, acting on the advice of a consulting engineer, reported that the development of the small areas at the northerly end of the harbor would not be economical.

22. In the preliminary examination dated 24 February 1948, the Division Engineer indicated that owing to the somewhat isolated location of Newport near the mouth of Narragansett Bay, development of the harbor as a commercial port to serve the district beyond Aquidneck and Conanicut Islands appears to be lacking justification. Superior water terminal facilities with rail connections exist at Providence and Fall River near the head of Narragansett Bay and at New Bedford in Buzzards Bay. These large industrial cities on the mainland are the natural centers of distribution for the southeastern sections of New England, and Newport would add but little to existing shipping facilities in that area. The Division Engineer concluded:

a. "Due to the fact that Newport is somewhat isolated from the industrial areas of Rhode Island and southeastern Massachusetts, and that there are deep-water ports already developed nearer those areas, further extensive improvements of Newport Harbor for commercial purposes is not warranted."

b. "That a survey be made to determine the cost of providing and extent of a waterfront channel at the southerly end of the easterly waterfront.

c. "That a survey be made to determine the cost and extent of any improvement for recreational craft which may be found to be justified."

23. Based upon the study results of the preliminary examination and on subsequent meetings with city officials and local interests, which revealed that there was very little deep draft vessel traffic in the harbor and no planned commercial development requiring greater depths, it was considered that an improvement to provide for a 21-foot channel to and along the entire waterfront would not help commerce

in the harbor. No further consideration was given to 21-foot channel improvements. However, further consideration has been given to providing a channel of moderate depth at the southerly end of the easterly waterfront. This is discussed in subsequent paragraphs.

24. In March 1958 the Newport City Council passed a resolution asking the U. S. Corps of Engineers to remove a sunken object approximately 50 feet by 200 feet and dredge to a depth of 10 feet below mean low water, an area east of the U. S. Harbor line at the north end of the harbor. Local interests were informed at meetings held in June and August 1958, that inasmuch as the desired improvements lie shoreward of the harbor line, this work would be a local responsibility.

25. In consideration of the Public Hearing held on 7 January 1947, the findings contained in the Preliminary Examination dated 24 February 1948, and numerous meetings and communications with local interests and representatives, the resulting desired improvements are summarized as follows:

a. Deepening the northerly portion of the 13-foot anchorage to 18 feet, and providing an 18-foot channel along the southerly part of the easterly waterfront from the existing 18-foot deep anchorage area to the extreme south end of the harbor.

b. Providing 18-foot depth in the areas on the east and west sides of the City Wharf.

c. Providing a small boat anchorage in the southeasterly part of the harbor with a 10-foot depth.

These desired improvements have been considered and are discussed below in the order in which they have been summarized above.

DISCUSSION

26. The wharves of the Newport Gas Light Company, the D. J. Sullivan Coal Company, and the Socony-Mobil Oil Company comprise the waterfront section which lies southerly of the south harbor line. Since this study was initiated a natural gas line has been extended to Newport. Installation of this line has decreased the use of the gas company's wharf to receipts of small amounts of other fuels for emergency use which are delivered by truck. Neither the gas company or the coal company presently use the waterfront for waterborne commerce and they have no plans for future use of the waterfront for navigational

purposes. The Socony-Mobil Oil Company is the southern-most user of waterborne commerce and their wharf is less than 100 feet from the southeast corner of the existing 13-foot anchorage. It has been reported that because the approach to the oil company's wharf is about 12 feet or less, barges delivering oil must enter with about half of their total carrying capacity. It is expected that if the approach was deepened there would be some savings accruing from the use of full-loaded barges.

27. The wharves of the Newport Electric Company, the E. S. Peckham Coal and Ice Co., Inc., and the Newport Shipyard, Inc., are adjacent to that part of the desired 18-foot channel extension that crosses the 13-foot anchorage. The electric company receives its fuel by partially-loaded barges, apparently without undue difficulty. The coal company has provided an 18-foot channel of restricted width for its own use, at a cost of about \$35,000, but an official of the company has stated that substantial savings would result if a wider channel were provided. It is reported that boats approaching and leaving the shipyard have grounded just off the yard. The elevation of the outer end of the marine railway at the shipyard is about 18 feet below mean low water and the approach depth is about 14 feet.

28. There are several wharves adjacent to the existing 18-foot deep portion of the harbor. The difficulties that have been experienced in reaching these wharves are due to the shoal areas in the approaches to the wharves and in the berthing areas, all shoreward of the harbor line.

29. Based on the above information, there are about ten firms with access to the existing 13-foot anchorage, that would have access to the desired 18-foot channel extension. It has been considered that tangible benefits would accrue to the general public by virtue of reduced transportation costs and elimination of tidal delays to those firms receiving vessels with drafts greater than 13 feet. Because available data was insufficient to make a detailed analysis of benefits, local interests were requested by letter in July 1958 to furnish additional detailed information relative to future commercial developments and projected waterborne traffic expected as a result of the desired channel extension and to present information on the attitude of the representative of those firms bordering this channel. Information received has been insufficient to demonstrate the need for further improvement to meet the needs of commercial navigation.

30. At a meeting held with city officials and other local representatives on 21 August 1958, to discuss the need for the desired channel extension to the south part of the harbor, local interests expressed the following:

a. They were not in favor of modifying the south harbor line, which would be necessary to extend the channel southward beyond this limit, but rather preferred to restrict any improvement to the limits of the existing harbor line.

b. They indicated that there would not be enough deep draft commerce to justify deepening the waterfront to the south-east corner greater than 13 feet.

These local expressions indicated that the 18-foot channel improvement was not needed nor justified. Therefore, a detailed analysis of the benefits that would accrue was not made. However, utilizing the information on hand, tangible benefits were evaluated in the order of about \$600 annually. This channel improvement, if extended only to the south edge of the 13-foot anchorage i.e. to the harbor line, would indicate a length of about 1,300 feet. Based upon a width of 250 feet the total estimated project cost for dredging in excess of 50,000 cubic yards of ordinary material and for the removal of about 12,500 cubic yards of rock, would be between 1/2 and 3/4 of a million dollars according to prevailing unit costs for this area. The resulting benefit-cost ratio would be about 0.03 to 1.0, insufficient for economic justification.

31. The desired improvement for dredging areas on the east and west sides of the north City Wharf to 18 feet has been the subject of numerous meetings and communications with the City Officials and local interests. Local interests were requested by letters during 1958 and 1959 to furnish information as to their need for more than 8 feet of water in the two areas for purposes of recreational boats or fishing boats. Information received has been insufficient to justify depths over 8 feet.

32. Plans have been proposed by local interests for a development for pleasure and fishing boats in the area east of the north City Wharf. The plan extended to within 70 feet of the east harbor line which was objected to by the adjacent property owners. The matter of modifying the harbor line was discussed but local interests indicated there would be objectors, thereby resulting in the probability that the harbor lines could not be changed. Subsequent to reviewing the above proposal no further information has been forthcoming. In the event a pleasure boat marina is proposed for this area the construction of such a facility and the provision of associated water depths should be a responsibility of the local interests.

33. In July 1958 four considered plans of improvement to provide shelter for small boats at the southern end of the harbor near King Park were forwarded to the City for review and comment. It was pointed out that, from information then available on the number and type of boats expected to use the area, if the area were improved, it appeared none of these plans were economically justified. Additional information was requested to permit further detailed study of the four plans and to determine the current feeling toward pleasure-boat improvement in this area.

34. Subsequent to the above July 1958 request for information, at the meeting held with City officials and local representatives on 21 August 1958, the local group indicated that the timber piers being constructed at that time, and now completed, extending easterly from the end of "Stone Pier" to create a marina, would meet the needs of local interests. They stated that no additional improvements were desired in this area.

35. There are no matters of flood control, water power or pollution pertinent to this report. Since all of the plans of improvement considered in this report are unfavorable, comments of the U. S. Fish and Wildlife Service have not been requested.

CONCLUSIONS

36. The Division Engineer concludes the following:

a. The initially desired improvements to provide for a channel 21 feet deep, 350 to 400 feet wide extending from the entrance channel to and along the entire east shorefront and deepening the northerly portion of the 13-foot anchorage to 18 feet for commercial purposes, constitute extensive improvements which are not warranted since there are deep water ports already developed nearer the industrialized areas of Rhode Island and southeastern Massachusetts.

b. The desired improvement to provide an 18-foot channel 250 feet wide along the southerly portion of the easterly waterfront extending to and shoreward of the existing U. S. harbor line, would not be justified economically at this time and local interests do not desire to have the harbor line modified as would be required.

c. The desired improvement to provide an 18-foot depth in the areas on the east and west sides of the north City Wharf for fishing and recreational boats would not be justified economically at this time and, any Federal construction in the northeast corner of the harbor shoreward of the harbor line would require modification of the established U. S. harbor line to which there are local objections. Proposed plans for marina construction by local interests in the northeast corner of the harbor is entirely a local responsibility.

d. The originally desired improvement to provide sheltered anchorage for recreational craft in the King Park area in the southern part of the harbor is no longer desired as a result of construction by local interests in 1958 of the timber pier-marina in that area.

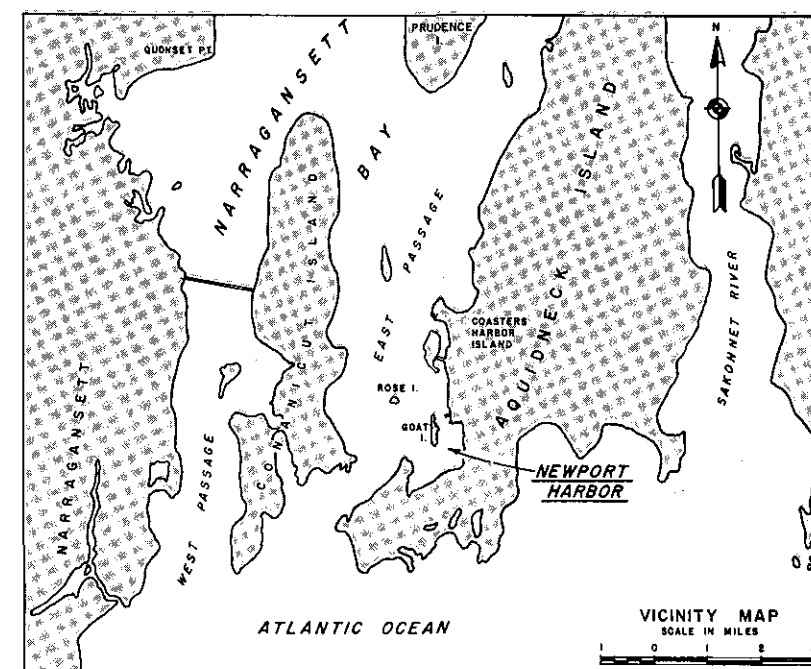
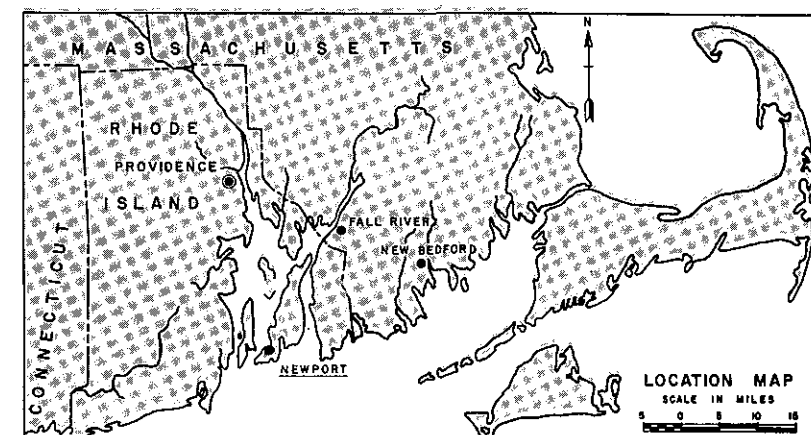
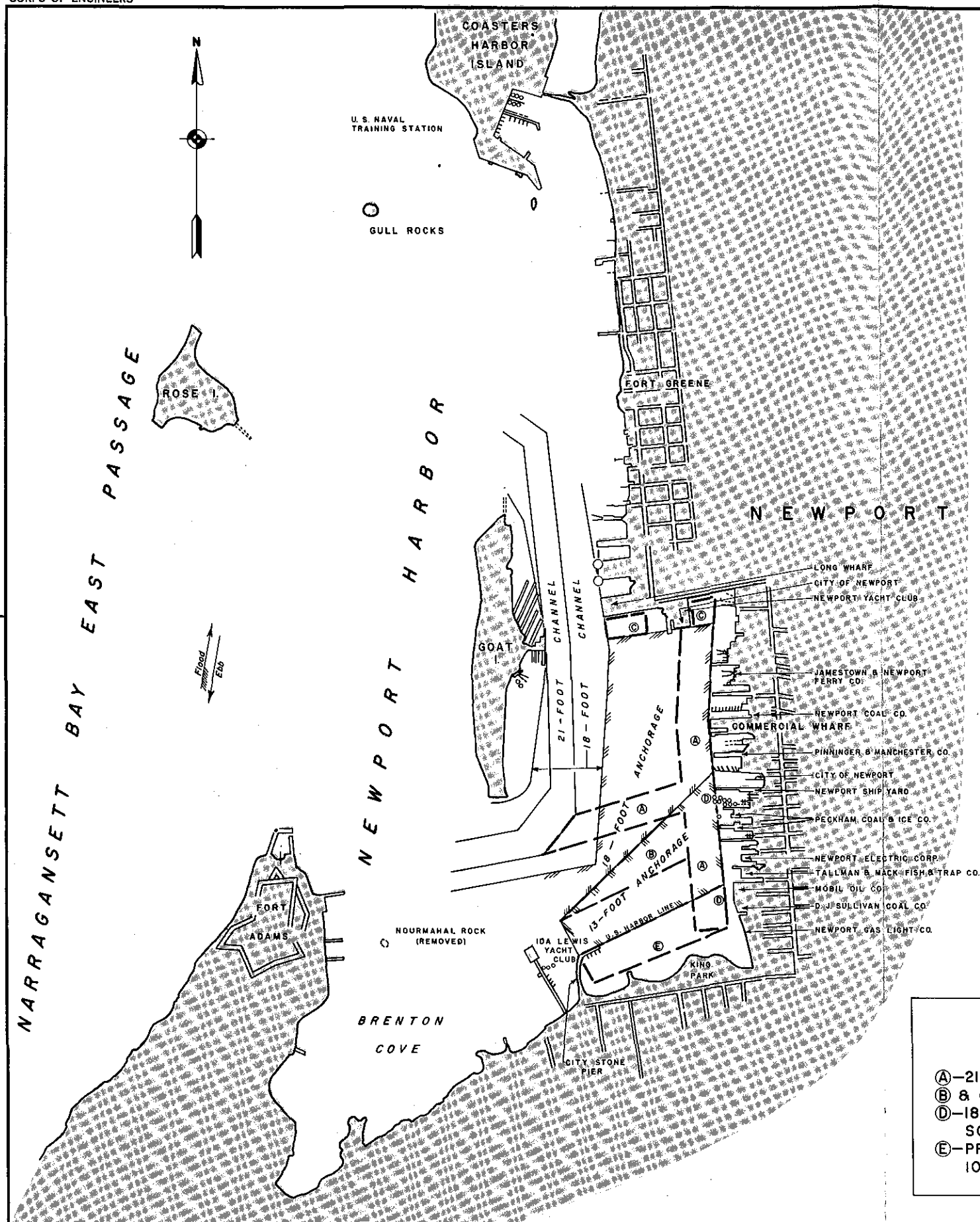
37. It is therefore concluded that there is no basis for modifying the existing project for Newport Harbor, Rhode Island at this time.

RECOMMENDATION



38. The Division Engineer recommends that no further consideration be given to modification of the existing navigation project for Newport Harbor, Rhode Island, at this time.

SEYMOUR A. POTTER, JR.
Brigadier General, USA
Division Engineer

1 Incl
Map



LEGEND:

Existing project shown thus: 
 Desired improvement shown thus: 



DESIRED IMPROVEMENTS NOT RECOMMENDED

- (A) - 21 FOOT CHANNEL, 350-400 FEET WIDE
- (B) & (C) - 18 FOOT ANCHORAGE BASINS
- (D) - 18 FOOT CHANNEL, 250 FEET WIDE ALONG SOUTH WATERFRONT
- (E) - PROTECTED SMALL BOAT ANCHORAGE 10 FEET DEEP

U.S. ARMY ENGINEER DIVISION, NEW ENGLAND
CORPS OF ENGINEERS, WALTHAM, MASS.

NEWPORT HARBOR RHODE ISLAND

SHEET 1 OF 1 SCALE IN FEET AUGUST, 1962
1000 0 1000 2000

APPROVED: 
 SUBMITTED: 
 CHIEF OF ENGINEERING DIVISION
 CHIEF OF PLANNING AND REPORTS BRANCH
 CHIEF OF SURVEY AND MAPS SECTION
 PROJECT ENGINEER

TO ACCOMPANY SURVEY
REPORT DATED SEPT. 14, 1962

FILE NO. Np. 206